PUBLIC CENTER FOR ENVIRONMENTAL HEALTH
2513 Kennedy Circle, Building 180, Suite 105
Brooks City-Base, Texas 78235
Phone: (210) 532-5765 ~ Fax: (210) 532-3747

COMMUNITY DRINKING WATER

FINAL REPORT 2004

August 4, 2004

Final Report Submitted To:

Mr. Adam Antwine, P.E.

Air Force Real Property Agency (AFRPA)

143 Billy Mitchell Blvd., Suite 1

San Antonio, Texas 78266

Project #032015-002

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APPENDICES

PROJECT SUMMARY

At the community's request in 2003, the Public Center for Environmental Health collected 22 drinking water samples from 21 sites over the contaminated shallow groundwater plume surrounding the former Kelly Air Force Base on December 18, 2003 and January 14, 2004. The drinking water samples were analyzed by San Antonio Testing Laboratory, Inc. for the presence of the contaminants of concern: tetrachloroethene (PCE), trichloroethylene (TCE), 1,2-dichloroethene (1,2-DCE), and vinyl chloride. None of the samples showed any indication of contamination with these four compounds.

INTRODUCTION

Kelly Air Force Base (AFB) was established in 1916 as the first military air base in Texas. It was used as a military depot and a major training base. After World War II, an increased emphasis was placed on the base's depot-level maintenance activities. Kelly AFB utilized thousands of gallons of fuels, oils, solvents, and other petroleum products. Past waste management practices at Kelly AFB resulted in several releases of industrial chemical contaminants. The most common contaminants were chlorinated solvents (i.e., PCE, TCE, 1,2-DCE, and vinyl chloride). In 1988, a City of San Antonio Public Works crew encountered underground jet fuel during a street construction project in the Quintana Road neighborhood. This was the first indication that contamination from Kelly AFB had gone beyond the base boundary.

After this discovery, the San Antonio Metro Health District (SAMHD) surveyed the surrounding neighborhoods to find shallow groundwater wells and began testing them for contaminants. A notice was issued advising residents not to drink water from private shallow groundwater wells. In cooperation with San Antonio Water Systems and the Air Force Real Property Agency (AFRPA), SAMHD helped plug a total of 75 abandoned private wells to protect the health and safety of the community.
Due to requests from the public, SAMHD had conducted environmental monitoring and testing of the public water supply in the area from 1997-2002 (see Table 1.) These tests have never indicated contamination within the public drinking water supply with any of the chemicals of concern in the residential area around the former base. It should be noted that the drinking water supply for San Antonio is obtained from the deep Edward's Aquifer, not from shallow groundwater.

Table 1
Number of samples taken by location type for 1997-2002

Year	Schools	Residences	Businesses	Day Care	Total
1997	7	47	2	6	62
1998	6	0	0	9	15
1999	9	9	2	1	21
2002	1	1	3	3	7

SAMPLING LOCATIONS (2003-2004)

On December 18, 2003 and January 14, 2004, a total of 22 drinking water samples were collected from locations around the former air force base. (See Map of Sampling Locations, APPENDIX A.) These samples were collected at various locations: six schools, six residences, three food establishments, three businesses located at KellyUSA, one day care center, one senior nutrition center, and one community service organization (see Table 2.)

Table 2
Number of samples taken by location type for 2003-2004

Categories	Sites	Samples
Schools	6	6
Day Care Centers	1	1
Senior Nutrition Centers	1	1
Food Establishments	3	3
KellyUSA Industries	3	3
Residences	6	6
Community Service Org	1	2
Total	21	22

COLLECTION PROCESS

Four teams of Registered Sanitarians with the San Antonio Metropolitan Health District, Environmental Services Department were assigned collection sites from which they obtained 20 water samples on December 18, 2003. Two water samples from a community service organization located on East Kelly were taken on January 14, 2004.

SAMPLING PROCEDURE

1. The collection teams removed the aerators from the faucets before sampling.
2. Cold water was allowed to run for a minimum of three minutes.
3. Wearing gloves, the collection teams filled the sample containers with cold water to slight overflow.
4. The sample containers were labeled and checked for air bubbles.
5. Chain of custody forms were maintained by each collection team documenting the sample site, the date and time of sample collection, and the number of samples collected.
6. Sample containers were delivered to the testing laboratory the same day as collection.

ANALYSIS

San Antonio Testing Laboratory, Inc. (SA Testing) analyzed the water samples for the four principal contaminants of concern using accepted EPA Methodology.

RESULTS

Tests of all 22 drinking water samples resulted in readings below the Maximum Contaminant Level set by the Environmental Protection Agency (EPA) for public drinking water (see Table 3.)

Table 3
Drinking water sample results for the chemicals of concern compared to the Maximum Contaminant Levels for drinking water set by the Environmental Protection Agency

Chemical of Concern	22 Sample results	Maximum Contaminant Level
tetrachloroethene (PCE)	<5 µg/L (ppb)	5 µg/L (ppb)
trichloroethylene (TCE)	<5 µg/L (ppb)	5 µg/L (ppb)
1,2-dichloroethene (DCE)	<5 µg/L (ppb)	70 µg/L (ppb)
vinyl chloride	<2 µg/L (ppb)	2 µg/L (ppb)

To further investigate the public water supply, the Public Center for Environmental Health requested the most current reports from both San Antonio Water System (SAWS) and Bexar Met Water System detailing the analysis of volatile organic compounds (VOC's) from public water supply wells within the area near the former Air Force base (See SAWS and Bexar Met Water Systems' VOC testing results, APPENDIX B and C.) Public water systems in Texas are required by the Environmental Protection Agency through the Texas Commission on Environmental Quality to test for contaminants in drinking water. Monitoring requirements for volatile organic compounds can be found in §290.107 of the Texas Administrative Code (See APPENDIX D.) This code mandates a compliance period of four consecutive quarterly samples, followed by yearly sampling at every entry point to the distribution system. After several years of annual sampling with no VOC detection, a water system is allowed to sample for the presence of VOC's once every three years.

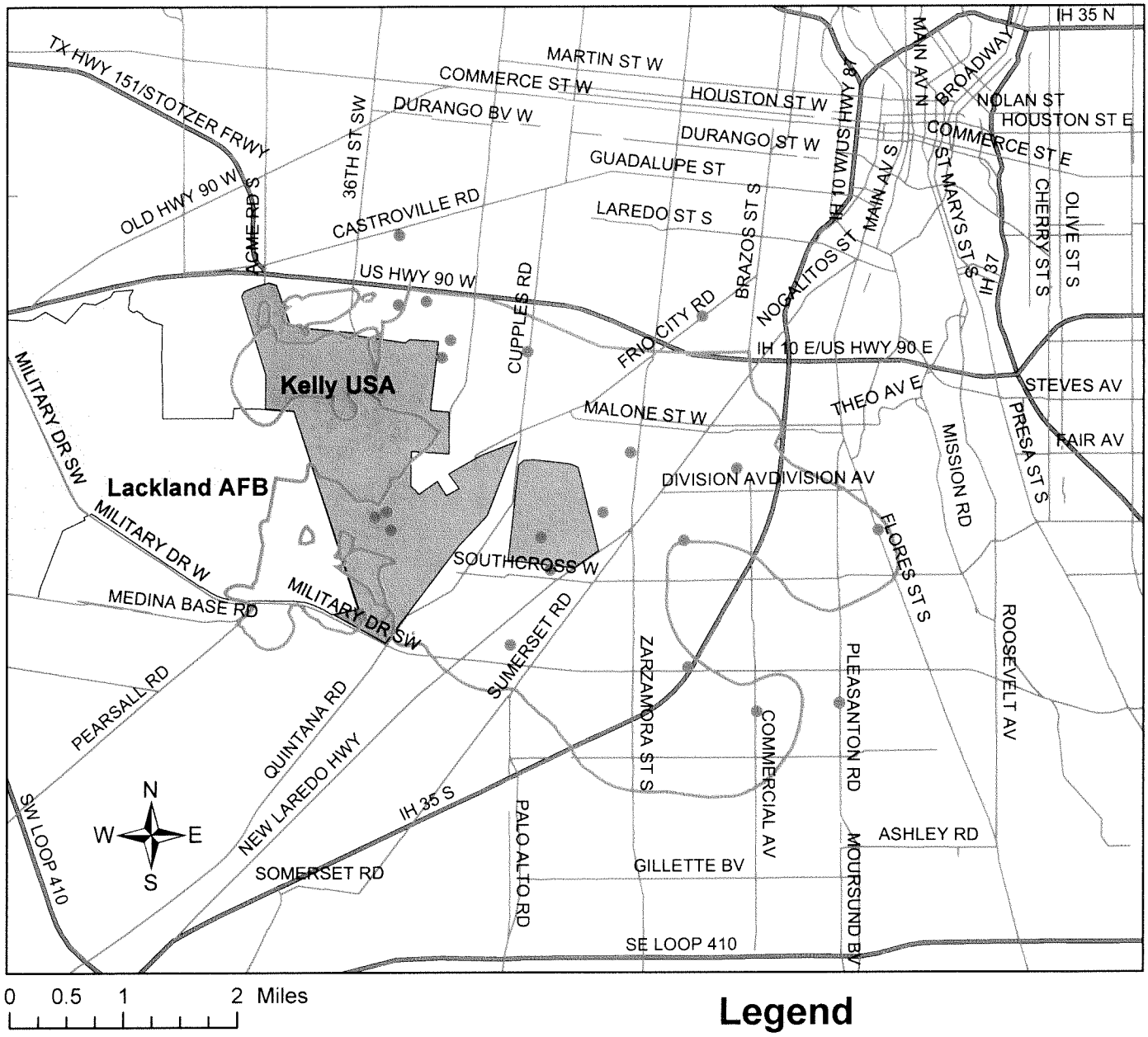
The current reports from SAWS and Bexar Met show that the levels of contaminants in all public water supply wells within the Kelly area remain well within safe drinking water limits.

CONCLUSION

The Public Center for Environmental Health collected 22 drinking water samples from 21 sites over the contaminated shallow groundwater plume. San Antonio Testing analyzed the samples for the presence of four volatile organic compounds: tetrachloroethene (PCE), trichloroethylene (TCE), 1,2-dichloroethene (DCE), and vinyl chloride. None of the samples showed any contamination from any of these compounds. Reports from public water agencies also confirmed that there is no contamination in the former Kelly AFB area from the chemicals of concern within the public drinking water supply. In the future, the Public Center for Environmental Health will continue to monitor drinking water to ensure the safety of the public water supply.

APPENDIX A
MAP OF SAMPLING LOCATIONS

2004 Drinking Water Sample Sites



Legend

- Water Sample Locations
- 1999 Plume

22 drinking water samples were taken from locations over the contaminated shallow groundwater plume surrounding the former Kelly AFB. VOC's were not detected in any of the samples.

APPENDIX B
VOC TESTING RESULTS FROM SAN ANTONIO WATER SYSTEMS

San Antonio Water System
Analysis for Public Water Supply Wells
(Former Kelly Air Force Base)

150113		Dover	Lindbergh	UpsomPark	Stapleton Park
Compound	**POE 004**	**POE 006**	**POE 007**		**POE 009**
INORGANIC CONSTITUENTS					**04/09/03**
RADIOACTIVITY					
GROSS ALPHA(pCi/L)				<	2.0
GROSS BETA(pCi/L)				<	4.0
Radium 228				<	1.0
Radon (pCi/L)					
Alkalinity, Bicarbonate (AS CaCO3) mg/L					
Alkalinity, Carbonate (AS CaCO3) mg/L					
Alkalinity, Phenolphthalein mg/L					
Alkalinity, Total (AS CaCO3) mg/L					
Specific Conductance (µmhos/cm)					
pH UNITS					
Total dissolved solids (mg/L)					
Hardness (AS CaCO3) mg/L					
INORGANIC CONSTITUENTS					
MILLIGRAM PER LITER mg/L	**07/29/03**	**07/29/03**	**07/29/03**		**07/29/03**
Aluminum					
Antimony					
Arsenic	< 0.0020	< 0.0020	< 0.0020	<	0.0020
Barium					
Beryllium					
Cadmium					
Calcium					
Chloride					
Chromium					
Copper					
Fluoride					
Iron					
Lead					
Magnesium					
Manganese					
Mercury					
Nickel					
		01/29/03	**01/29/03**		**01/29/03**
Nitrate (mg/l)		1.87	1.89		1.84
Nitrogen, Nitrate (AS N)					
Selenium					
Silver					
Sodium					
Thallium					
Zinc					
VOLATILE ORGANICS; ug/L	**POE 004**	**POE 006**	**POE 007**		**POE 009**
EPA 524.2					
Trihalomethanes		**01/29/03**	**01/29/03**		**01/29/03**
Chloroform		< 0.5	< 0.5	<	0.5
Bromodichloromethane		< 0.5	< 0.5	<	0.5
Dibromochloromethane		< 0.5	< 0.5	<	0.5

San Antonio Water System

Analysis for Public Water Supply Wells

(Former Kelly Air Force Base)

Bromoform		<	0.5	<	0.5	<	0.5
Dibromomethane		<	1.0	<	1.0	<	1.0
Total THM's							
VOLATILE ORGANICS; ug/L							
REGULATED COMPOUNDS							
Benzene		<	0.5	<	0.5	<	0.5
Carbon tetrachloride		<	0.5	<	0.5	<	0.5
Chlorobenzene		<	0.5	<	0.5	<	0.5
1,2-Dichlorobenzene		<	0.5	<	0.5	<	0.5
1,4-Dichlorobenzene		<	0.5	<	0.5	<	0.5
1,2-Dichloroethane		<	0.5	<	0.5	<	0.5
1,1 Dichloroethene		<	0.5	<	0.5	<	0.5
CIS-1,2-Dichloroethene		<	0.5	<	0.5	<	0.5
trans-1,2-Dichloroethene		<	0.5	<	0.5	<	0.5
1,2-Dichloropropane		<	0.5	<	0.5	<	0.5
Methylene chloride (DCM)		<	0.5	<	0.5	<	0.5
Ethyl benzene		<	0.5	<	0.5	<	0.5
Styrene		<	0.5	<	0.5	<	0.5
Tetrachloroethene		<	0.5	<	0.5	<	0.5
Toluene		<	0.5	<	0.5	<	0.5
1,2,4-Trichlorobenzene		<	0.5	<	0.5	<	0.5
1,1,1-Trichloroethane		<	0.5	<	0.5	<	0.5
1,1,2-Trichloroethane		<	0.5	<	0.5	<	0.5
Trichloroethene		<	0.5	<	0.5	<	0.5
Vinyl chloride		<	0.5	<	0.5	<	0.5
m&p-Xylene		<	1.0	<	1.0	<	1.0
o-Xylene		<	0.5	<	0.5	<	0.5
EPA 524.2	**POE 004**		**POE 006**		**POE 007**		**POE 009**
Monitored Compounds							
VOLATILE ORGANICS; ug/L			**01/29/03**		**01/29/03**		**01/29/03**
1,3-Dichlorobenzene		<	1.0	<	1.0	<	1.0
1,1-Dichloropropene		<	1.0	<	1.0	<	1.0
1,1-Dichloroethane		<	1.0	<	1.0	<	1.0
1,1,1,2-Tetrachloroethane		<	1.0	<	1.0	<	1.0
1,3-Dichloropropane		<	1.0	<	1.0	<	1.0
Chloromethane		<	2.0	<	2.0	<	2.0
Bromomethane		<	2.0	<	2.0	<	2.0
1,2,3-Trichloropropane		<	1.0	<	1.0	<	1.0
1,1,2,2-Tetrachloroethane		<	1.0	<	1.0	<	1.0
Chloroethane		<	2.0	<	2.0	<	2.0
2,2-Dichloropropane		<	1.0	<	1.0	<	1.0
2-Chlorotoluene		<	1.0	<	1.0	<	1.0
4-Chlorotoluene		<	1.0	<	1.0	<	1.0
Bromobenzene		<	1.0	<	1.0	<	1.0
cis-1,3-Dichloropropene		<	1.0	<	1.0	<	1.0
trans-1,3-Dichloropropene		<	1.0	<	1.0	<	1.0
Compound ug\L	**POE 004**		**POE 006**		**POE 007**		**POE 009**
EPA 524.2							
Monitored Compounds			**01/29/03**		**01/29/03**		**01/29/03**
VOLATILE ORGANICS; ug/L							
1,2-Dibromo-3-chloropropane		<	1.0	<	1.0	<	1.0

San Antonio Water System

Analysis for Public Water Supply Wells

(Former Kelly Air Force Base)

1,2-Dibromoethane	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	< 1.0	< 1.0	< 1.0
n-Propylbenzene	< 1.0	< 1.0	< 1.0
n-Butylbenzene	< 1.0	< 1.0	< 1.0
Naphthalene	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	< 1.0	< 1.0	< 1.0
4-Isopropyltoluene	< 1.0	< 1.0	< 1.0
Isopropylbenzene	< 1.0	< 1.0	< 1.0
t-Butylbenzene	< 1.0	< 1.0	< 1.0
s-Butlybenzene	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	< 2.0	< 2.0	< 2.0
Dichlorodifluoromethane	< 2.0	< 2.0	< 2.0
Bromochloromethane	< 1.0	< 1.0	< 1.0

OTHER COMPOUNDS ug/L	**POE 004**	**POE 006**	**POE 007**	**POE 009**
VOLATILE ORGANICS				
Acetone	< 1.0	< 1.0	< 1.0	
Acrylonitrile	< 1.0	< 1.0	< 1.0	
2-Butanone(MEK)	< 1.0	< 1.0	< 1.0	
Carbon disulfide	< 1.0	< 1.0	< 1.0	
Ethyl methacrylate	< 1.0	< 1.0	< 1.0	
2-Hexanone	< 1.0	< 1.0	< 1.0	
Iodomethane	< 2.0	< 2.0	< 2.0	
Methyl methacrylate	< 1.0	< 1.0	< 1.0	
4-Methyl-2pentanone (MIBK)	< 2.0	< 2.0	< 2.0	
Methyl-t-butyl ether (MTBE)	< 2.0	< 2.0	< 2.0	
Tetrahydrofuran	< 2.0	< 2.0	< 2.0	
Vinyl acetate	< 10	< 10	< 10	

APPENDIX C
VOC TESTING RESULTS FROM BEXAR METROPOLITAN WATER SYSTEMS

BexarMet
WATER DISTRICT
"The Water Resource People"

Visit our website
www.bexarmet.org

June 9, 2004

To: San Antonio Metropolitan Health District
Kyle Cunningham, R.S.
Program Manager
Public Center for Environmental Health District
San Antonio Metropolitan Health District
2513 Kennedy Circle, Bldg. 180, Suite 105
Brooks City-Base, Tx. 78235

Re: VOC Data Report

Dear Kyle:

BexarMet has received and reviewed your request to obtain the most current VOC data available around the Kelly Air Force Base area and have compiled data from our BMWD-Southside PWS I.D. #0150249 entry points:

BMWD Entry Point – 001 located at 411 Carlisle
BMWD Entry Point – 003 located at 2530 S.W. 21st Street
BMWD Entry Point – 004 located at 140 King Street
BMWD Entry Point – 006 located at 6019 S. Zarzamora
BMWD Entry Point – 008 located at 3040 Pitluk

If you have any questions regarding this matter, please call me at, 210-357-5706.

Sincerely,

Bexar Metropolitan Water District

Rogelio Placencia

Rogelio Placencia
Water Quality Supervisor

Executive Offices
2047 W. Malone
San Antonio, Texas 78225
Phone: (210) 354-6500
Fax: (210) 922-5152

Northwest Branch
9823 Marbach
San Antonio, Texas 78245
Phone: (210) 670-3100
Fax: (210) 673-3404

South San Branch
2706 W. Southcross
San Antonio, Texas 78211
P.O. Box 245994
San Antonio, Texas 78224-5994
Phone: (210) 922-1221
Fax: (210) 922-1894

DATE	ENTRYPOINT	RESULTS	DESCRIPTION	PWS #	COMPOUND
1/15/2002	001	ND	BUTYLBENZENE - UG/L VOC	0150249	VOC
1/15/2002	001	ND	1,2,4-TRICHLOROBENZENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	1,1,1-TRICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	1,1,2-TRICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	TRICHLOROETHENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	VINYLCHLORIDE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	MPXYLENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	DICHLOROBROMOMETHANE=BROMODICHLOROMETHANE UG/L-V	0150249	VOC
1/15/2002	001	ND	BROMOCHLOROMETHANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	STYRENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	SEC-BUTYLBENZENE - UG/L VOC	0150249	VOC
1/15/2002	001	ND	TERT-BUTYLBENZENE - UG/L VOC	0150249	VOC
1/15/2002	001	ND	DICHLORODIFLUOROMETHANE - UG/L VOC	0150249	VOC
1/15/2002	001	ND	HEXACHLOROBUTADIENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	ISOPROPYLBENZENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	4-ISOPROPYLTOLUENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	O-XYLENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	1,2-DICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	BROMOFORM UG/L -VOC	0150249	VOC
1/15/2002	001	ND	CHLOROFORM UG/L -VOC	0150249	VOC
1/15/2002	001	ND	DIBROMOCHLOROMETHANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	BENZENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	CARBONTETRACHLORIDE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	CHLOROBENZENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	TOLUENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	1,4-DICHLOROBENZENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	TETRACHLOROETHENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	1,1-DICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	TRANS 1,2-DICHLOROETHENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	CIS 1,2-DICHLOROETHENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	1,2-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	METHYLENECHLORIDE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	ETHYLBENZENE UG/L -VOC	0150249	VOC

DATE	ENTRYPOINT	RESULTS	DESCRIPTION	PWS #	COMPOUND
1/15/2002	001	ND	1,2,3,-TRICHLOROBENZENE UG/L-VOC	0150249	VOC
1/15/2002	001	ND	1,2-DICHLOROBENZENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	1,2,-DIBROMO-3-CHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	NAPHTHALENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	1,1,2,2,-TETRACHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	1,2,3-TRICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	ACETONE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	ACRYLONTRILE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	2-BUTANONE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	TRANS-1,3-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	VINYLACETATE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	CIS-1,3-DICHLOROPROPENE	0150249	VOC
1/15/2002	001	ND	1,2-DIBROMOETHANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	ETHYLMETHACRYLATE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	2-HEXANONE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	IODOMETHANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	METHYMETHACRYLATE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	4-METHYL-2-PENTANONE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	METHYL-T-BUTYLETHER UG/L -VOC	0150249	VOC
1/15/2002	001	ND	CARBONDISULFIDE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	2-CHLOROTOLUENE UG/L - VOC	0150249	VOC
1/15/2002	001	ND	TETRAHYDROFURAN UG/L -VOC	0150249	VOC
1/15/2002	001	ND	TRICHLOROFLUOMETHANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	1,2,4-TRIMETHYLBENZENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	1,3,5-TRIMETHYLBENZENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	BROMOBENZENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	BROMOMETHANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	1,1,1,2-TETRACHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	CHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	N-PROPYLBENZENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	4-CHLOROTOLUENE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	DIBROMOMETHANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	1,3-DICHLOROBENZENE UG/L -VOC	0150249	VOC

DATE	ENTRYPOINT	RESULTS	DESCRIPTION	PWS #	COMPOUND
1/15/2002	001	ND	1,1-DICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	1,3-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	2,2-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	1,1-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	001	ND	CHLOROMETHANE UG/L -VOC	0150249	VOC

DATE	ENTRYPOINT	RESULTS	DESCRIPTION	PWS #	COMPOUND
1/15/2002	003	ND	BUTYLBENZENE - UG/L VOC	0150249	VOC
1/15/2002	003	ND	1,2,4-TRICHLOROBENZENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	1,1,1-TRICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	1,1,2-TRICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	TRICHLOROETHENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	VINYLCHLORIDE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	MPXYLENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	DICHLOROBROMOMETHANE=BROMODICHLOROMETHANE UG/L-V	0150249	VOC
1/15/2002	003	ND	BROMOCHLOROMETHANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	STYRENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	SEC-BUTYLBENZENE - UG/L VOC	0150249	VOC
1/15/2002	003	ND	TERT-BUTYLBENZENE - UG/L VOC	0150249	VOC
1/15/2002	003	ND	DICHLORODIFLUOROMETHANE - UG/L VOC	0150249	VOC
1/15/2002	003	ND	HEXACHLOROBUTADIENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	ISOPROPYLBENZENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	4-ISOPROPYLTOLUENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	O-XYLENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	1,2-DICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	003	4.50	BROMOFORM UG/L -VOC	0150249	VOC
1/15/2002	003	ND	CHLOROFORM UG/L -VOC	0150249	VOC
1/15/2002	003	2.10	DIBROMOCHLOROMETHANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	BENZENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	CARBONTETRACHLORIDE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	CHLOROBENZENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	TOLUENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	1,4-DICHLOROBENZENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	TETRACHLOROETHENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	1,1-DICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	TRANS 1,2-DICHLOROETHENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	CIS 1,2-DICHLOROETHENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	1,2-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	METHYLENECHLORIDE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	ETHYLBENZENE UG/L -VOC	0150249	VOC

DATE	ENTRYPOINT	RESULTS	DESCRIPTION	PWS #	COMPOUND
1/15/2002	003	ND	1,2,3,-TRICHLOROBENZENE UG/L-VOC	0150249	VOC
1/15/2002	003	ND	1,2-DICHLOROBENZENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	1,2,-DIBROMO-3-CHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	NAPHTHALENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	1,1,2,2,-TETRACHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	1,2,3-TRICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	ACETONE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	ACRYLONTRILE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	2-BUTANONE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	TRANS-1,3-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	VINYLACETATE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	CIS-1,3-DICHLOROPROPENE	0150249	VOC
1/15/2002	003	ND	1,2-DIBROMOETHANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	ETHYLMETHACRYLATE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	2-HEXANONE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	IODOMETHANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	METHYMETHACRYLATE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	4-METHYL-2-PENTANONE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	METHYL-T-BUTYLETHER UG/L -VOC	0150249	VOC
1/15/2002	003	ND	CARBONDISULFIDE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	2-CHLOROTOLUENE UG/L - VOC	0150249	VOC
1/15/2002	003	ND	TETRAHYDROFURAN UG/L -VOC	0150249	VOC
1/15/2002	003	ND	TRICHLOROFLUOMETHANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	1,2,4-TRIMETHYLBENZENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	1,3,5-TRIMETHYLBENZENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	BROMOBENZENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	BROMOMETHANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	1,1,1,2-TETRACHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	CHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	N-PROPYLBENZENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	4-CHLOROTOLUENE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	DIBROMOMETHANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	1,3-DICHLOROBENZENE UG/L -VOC	0150249	VOC

DATE	ENTRYPOINT	RESULTS	DESCRIPTION	PWS #	COMPOUND
1/15/2002	003	ND	1,1-DICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	1,3-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	2,2-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	1,1-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	003	ND	CHLOROMETHANE UG/L -VOC	0150249	VOC

DATE	ENTRYPOINT	RESULTS	DESCRIPTION	PWS #	COMPOUND
1/15/2002	004	ND	BUTYLBENZENE - UG/L VOC	0150249	VOC
1/15/2002	004	ND	1,2,4-TRICHLOROBENZENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	1,1,1-TRICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	1,1,2-TRICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	TRICHLOROETHENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	VINYLCHLORIDE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	MPXYLENE UG/L -VOC	0150249	VOC
1/15/2002	004	8.70	DICHLOROBROMOMETHANE=BROMODICHLOROMETHANE UG/L-V	0150249	VOC
1/15/2002	004	ND	BROMOCHLOROMETHANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	STYRENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	SEC-BUTYLBENZENE - UG/L VOC	0150249	VOC
1/15/2002	004	ND	TERT-BUTYLBENZENE - UG/L VOC	0150249	VOC
1/15/2002	004	ND	DICHLORODIFLUOROMETHANE - UG/L VOC	0150249	VOC
1/15/2002	004	ND	HEXACHLOROBUTADIENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	ISOPROPYLBENZENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	4-ISOPROPYLTOLUENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	O-XYLENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	1,2-DICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	004	2.20	BROMOFORM UG/L -VOC	0150249	VOC
1/15/2002	004	5.90	CHLOROFORM UG/L -VOC	0150249	VOC
1/15/2002	004	7.40	DIBROMOCHLOROMETHANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	BENZENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	CARBONTETRACHLORIDE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	CHLOROBENZENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	TOLUENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	1,4-DICHLOROBENZENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	TETRACHLOROETHENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	1,1-DICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	TRANS 1,2-DICHLOROETHENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	CIS 1,2-DICHLOROETHENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	1,2-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	METHYLENECHLORIDE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	ETHYLBENZENE UG/L -VOC	0150249	VOC

DATE	ENTRYPOINT	RESULTS	DESCRIPTION	PWS #	COMPOUND
1/15/2002	004	ND	1,2,3,-TRICHLOROBENZENE UG/L-VOC	0150249	VOC
1/15/2002	004	ND	1,2-DICHLOROBENZENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	1,2,-DIBROMO-3-CHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	NAPHTHALENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	1,1,2,2,-TETRACHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	1,2,3-TRICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	ACETONE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	ACRYLONTRILE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	2-BUTANONE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	TRANS-1,3-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	VINYLACETATE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	CIS-1,3-DICHLOROPROPENE	0150249	VOC
1/15/2002	004	ND	1,2-DIBROMOETHANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	ETHYLMETHACRYLATE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	2-HEXANONE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	IODOMETHANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	METHYMETHACRYLATE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	4-METHYL-2-PENTANONE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	METHYL-T-BUTYLETHER UG/L -VOC	0150249	VOC
1/15/2002	004	ND	CARBONDISULFIDE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	2-CHLOROTOLUENE UG/L - VOC	0150249	VOC
1/15/2002	004	ND	TETRAHYDROFURAN UG/L -VOC	0150249	VOC
1/15/2002	004	ND	TRICHLOROFLUOMETHANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	1,2,4-TRIMETHYLBENZENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	1,3,5-TRIMETHYLBENZENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	BROMOBENZENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	BROMOMETHANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	1,1,1,2-TETRACHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	CHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	N-PROPYLBENZENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	4-CHLOROTOLUENE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	DIBROMOMETHANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	1,3-DICHLOROBENZENE UG/L -VOC	0150249	VOC

DATE	ENTRYPOINT	RESULTS	DESCRIPTION	PWS #	COMPOUND
1/15/2002	004	ND	1,1-DICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	1,3-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	2,2-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	1,1-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	004	ND	CHLOROMETHANE UG/L -VOC	0150249	VOC

DATE	ENTRYPOINT	RESULTS	DESCRIPTION	PWS #	COMPOUND
1/15/2002	006	ND	BUTYLBENZENE - UG/L VOC	0150249	VOC
1/15/2002	006	ND	1,2,4-TRICHLOROBENZENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	1,1,1-TRICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	1,1,2-TRICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	TRICHLOROETHENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	VINYLCHLORIDE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	MPXYLENE UG/L -VOC	0150249	VOC
1/15/2002	006	9.00	DICHLOROBROMOMETHANE=BROMODICHLOROMETHANE UG/L-V	0150249	VOC
1/15/2002	006	ND	BROMOCHLOROMETHANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	STYRENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	SEC-BUTYLBENZENE - UG/L VOC	0150249	VOC
1/15/2002	006	ND	TERT-BUTYLBENZENE - UG/L VOC	0150249	VOC
1/15/2002	006	ND	DICHLORODIFLUOROMETHANE - UG/L VOC	0150249	VOC
1/15/2002	006	ND	HEXACHLOROBUTADIENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	ISOPROPYLBENZENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	4-ISOPROPYLTOLUENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	O-XYLENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	1,2-DICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	006	2.20	BROMOFORM UG/L -VOC	0150249	VOC
1/15/2002	006	6.20	CHLOROFORM UG/L -VOC	0150249	VOC
1/15/2002	006	7.50	DIBROMOCHLOROMETHANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	BENZENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	CARBONTETRACHLORIDE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	CHLOROBENZENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	TOLUENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	1,4-DICHLOROBENZENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	TETRACHLOROETHENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	1,1-DICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	TRANS 1,2-DICHLOROETHENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	CIS 1,2-DICHLOROETHENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	1,2-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	METHYLENECHLORIDE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	ETHYLBENZENE UG/L -VOC	0150249	VOC

DATE	ENTRYPOINT	RESULTS	DESCRIPTION	PWS #	COMPOUND
1/15/2002	006	ND	1,2,3,-TRICHLOROBENZENE UG/L-VOC	0150249	VOC
1/15/2002	006	ND	1,2-DICHLOROBENZENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	1,2,-DIBROMO-3-CHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	NAPHTHALENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	1,1,2,2,-TETRACHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	1,2,3-TRICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	ACETONE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	ACRYLONTRILE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	2-BUTANONE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	TRANS-1,3-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	VINYLACETATE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	CIS-1,3-DICHLOROPROPENE	0150249	VOC
1/15/2002	006	ND	1,2-DIBROMOETHANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	ETHYLMETHACRYLATE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	2-HEXANONE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	IODOMETHANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	METHYMETHACRYLATE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	4-METHYL-2-PENTANONE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	METHYL-T-BUTYLETHER UG/L -VOC	0150249	VOC
1/15/2002	006	ND	CARBONDISULFIDE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	2-CHLOROTOLUENE UG/L - VOC	0150249	VOC
1/15/2002	006	ND	TETRAHYDROFURAN UG/L -VOC	0150249	VOC
1/15/2002	006	ND	TRICHLOROFLUOMETHANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	1,2,4-TRIMETHYLBENZENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	1,3,5-TRIMETHYLBENZENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	BROMOBENZENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	BROMOMETHANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	1,1,1,2-TETRACHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	CHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	N-PROPYLBENZENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	4-CHLOROTOLUENE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	DIBROMOMETHANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	1,3-DICHLOROBENZENE UG/L -VOC	0150249	VOC

DATE	ENTRYPOINT	RESULTS	DESCRIPTION	PWS #	COMPOUND
1/15/2002	006	ND	1,1-DICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	1,3-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	2,2-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	1,1-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	006	ND	CHLOROMETHANE UG/L -VOC	0150249	VOC

DATE	ENTRYPOINT	RESULTS	DESCRIPTION	PWS #	COMPOUND
1/15/2002	008	ND	BUTYLBENZENE - UG/L VOC	0150249	VOC
1/15/2002	008	ND	1,2,4-TRICHLOROBENZENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	1,1,1-TRICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	1,1,2-TRICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	TRICHLOROETHENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	VINYLCHLORIDE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	MPXYLENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	DICHLOROBROMOMETHANE=BROMODICHLOROMETHANE UG/L-V	0150249	VOC
1/15/2002	008	ND	BROMOCHLOROMETHANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	STYRENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	SEC-BUTYLBENZENE - UG/L VOC	0150249	VOC
1/15/2002	008	ND	TERT-BUTYLBENZENE - UG/L VOC	0150249	VOC
1/15/2002	008	ND	DICHLORODIFLUOROMETHANE - UG/L VOC	0150249	VOC
1/15/2002	008	ND	HEXACHLOROBUTADIENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	ISOPROPYLBENZENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	4-ISOPROPYLTOLUENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	O-XYLENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	1,2-DICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	008	3.00	BROMOFORM UG/L -VOC	0150249	VOC
1/15/2002	008	ND	CHLOROFORM UG/L -VOC	0150249	VOC
1/15/2002	008	1.50	DIBROMOCHLOROMETHANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	BENZENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	CARBONTETRACHLORIDE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	CHLOROBENZENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	TOLUENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	1,4-DICHLOROBENZENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	TETRACHLOROETHENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	1,1-DICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	TRANS 1,2-DICHLOROETHENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	CIS 1,2-DICHLOROETHENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	1,2-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	METHYLENECHLORIDE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	ETHYLBENZENE UG/L -VOC	0150249	VOC

DATE	ENTRYPOINT	RESULTS	DESCRIPTION	PWS #	COMPOUND
1/15/2002	008	ND	1,2,3,-TRICHLOROBENZENE UG/L-VOC	0150249	VOC
1/15/2002	008	ND	1,2-DICHLOROBENZENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	1,2,-DIBROMO-3-CHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	NAPHTHALENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	1,1,2,2,-TETRACHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	1,2,3-TRICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	ACETONE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	ACRYLONTRILE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	2-BUTANONE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	TRANS-1,3-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	VINYLACETATE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	CIS-1,3-DICHLOROPROPENE	0150249	VOC
1/15/2002	008	ND	1,2-DIBROMOETHANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	ETHYLMETHACRYLATE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	2-HEXANONE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	IODOMETHANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	METHYMETHACRYLATE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	4-METHYL-2-PENTANONE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	METHYL-T-BUTYLETHER UG/L -VOC	0150249	VOC
1/15/2002	008	ND	CARBONDISULFIDE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	2-CHLOROTOLUENE UG/L - VOC	0150249	VOC
1/15/2002	008	ND	TETRAHYDROFURAN UG/L -VOC	0150249	VOC
1/15/2002	008	ND	TRICHLOROFLUOMETHANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	1,2,4-TRIMETHYLBENZENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	1,3,5-TRIMETHYLBENZENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	BROMOBENZENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	BROMOMETHANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	1,1,1,2-TETRACHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	CHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	N-PROPYLBENZENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	4-CHLOROTOLUENE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	DIBROMOMETHANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	1,3-DICHLOROBENZENE UG/L -VOC	0150249	VOC

DATE	ENTRYPOINT	RESULTS	DESCRIPTION	PWS #	COMPOUND
1/15/2002	008	ND	1,1-DICHLOROETHANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	1,3-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	2,2-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	1,1-DICHLOROPROPANE UG/L -VOC	0150249	VOC
1/15/2002	008	ND	CHLOROMETHANE UG/L -VOC	0150249	VOC

APPENDIX D
ORGANIC CONTAMINANTS
TEXAS ADMINISTRATIVE CODE
RULE 290.107

Texas Administrative Code

TITLE 30	ENVIRONMENTAL QUALITY
PART 1	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CHAPTER 290	PUBLIC DRINKING WATER
SUBCHAPTER F	DRINKING WATER STANDARDS GOVERNING DRINKING WATER QUALITY AND REPORTING REQUIREMENTS FOR PUBLIC WATER SYSTEMS
RULE §290.107	**Organic Contaminants**

(a) Applicability. All community and nontransient, non-community water systems shall comply with the requirements of this section regarding organic contaminants. For purposes of this section, systems using groundwater under the direct influence of surface water shall meet the organic sampling requirements given for surface water systems.

(b) Maximum contaminant levels (MCLs) for organic contaminants. The concentration of synthetic and volatile organic chemicals shall not exceed the MCLs specified in this section.

(1) The following are MCLs for synthetic organic contaminants (SOCs).

Attached Graphic

(2) The following are MCLs for volatile organic contaminants (VOCs).

Attached Graphic

(3) Each public water system must certify annually to the executive director (using third party or manufacturer's certification) that when acrylamide or epichlorohydrin are used in drinking water systems, the combination (or product) of dose and monomer level does not exceed 0.05% dosed at 1.0 mg/L (or equivalent) for acrylamide and 0.01% dosed at 20 mg/L (or equivalent) for epichlorohydrin.

(c) Monitoring requirements for organic contaminants. Public water systems shall monitor for organic contaminants at the locations and frequency in paragraphs (1) and (2) of this subsection. All monitoring conducted under the requirements of this section must be conducted at sites designated in the public water system's monitoring plan. All samples must be taken during periods of normal operation when water representative of all sources used by the system is being used.

(1) SOC monitoring requirements. Monitoring of the SOC contaminants shall be conducted at the frequency and locations given in this paragraph.

(A) SOC monitoring locations. Monitoring of the SOC contaminants shall be conducted at the following locations.

(i) Systems treating only groundwater shall sample for SOCs at every entry point to the distribution system which is representative of each well after treatment. Subsequent samples must be taken at the same entry point to the distribution system unless a change in conditions makes another entry point to the distribution system more representative of each source or treatment plant. The executive director must approve any change in sampling location.

(ii) Systems using surface water and systems treating groundwater under the direct influence of surface water shall sample for SOCs at points in the distribution system that are representative of each source or at each entry point to the distribution system. Subsequent samples must be taken at the same entry points to the distribution system unless a change in conditions makes another entry point to the distribution system more representative of each source or treatment plant. The executive director must approve any change in sampling location.

(B) SOC monitoring frequency. Monitoring of the SOC contaminants shall be conducted at the following frequency.

(i) Community and nontransient noncommunity water systems shall take four consecutive quarterly samples for each SOC contaminant listed in subsection (b)(1) of this section during each compliance period beginning with the initial compliance period.

(ii) Community and nontransient noncommunity water systems serving more than 3,300 persons that do not detect a contaminant in the initial compliance period may reduce the sampling frequency to a minimum of two consecutive quarterly samples in one year during each repeat compliance period.

(iii) Community and nontransient noncommunity water systems serving 3,300 persons or fewer that do not detect a contaminant in the initial compliance period may reduce the sampling frequency to a minimum of one sample during each repeat compliance period.

(iv) Each public water system shall monitor at the time designated by the xecutive director within each compliance period.

(C) Increased SOC monitoring. The executive director may change the monitoring frequency for SOCs.

(i) Systems which violate the SOC MCL's of subsection (b)(1) of this section as determined by subsection (f) of this section must monitor quarterly. After a minimum of four quarterly samples shows the system is in compliance and the

executive director determines the system is reliably and consistently below the MCL, as determined by the methods specified in subsection (f) of this section, the executive director may allow the system to monitor annually. Systems which monitor annually must monitor during the quarter that previously yielded the highest analytical result.

(ii) The executive director may change the monitoring frequency if an organic SOC contaminant is detected in any sample.

(I) If an organic SOC contaminant is detected in any sample, the system must monitor quarterly at each entry point to the distribution system at which a detection occurs.

(II) After a groundwater system collects a minimum of two consecutive quarterly samples, the executive director may decrease the quarterly monitoring requirement specified in subclause (I) of this clause, if the system is reliably and consistently below the MCL.

(III) After a surface water system or system treating groundwater under the direct influence of surface water collects a minimum of four consecutive quarterly samples, the executive director may decrease the quarterly monitoring requirement specified in subclause (I) of this clause, if the system is reliably and consistently below the MCL.

(IV) After the executive director determines that a system is reliably and consistently below the MCL, the executive director may allow the system to monitor annually. Systems which monitor annually must monitor during the quarter that previously yielded the highest analytical result.

(V) Systems which have three consecutive annual samples with no detection of a contaminant may be granted a waiver at the discretion of the executive director. The executive director will consider the waiver for each compliance period.

(VI) If monitoring results in detection of one or more of certain related contaminants (i.e., heptachlor, and heptachlor epoxide), then subsequent monitoring shall analyze for all related contaminants.

(iii) The executive director may increase the required SOC monitoring frequency, where necessary, to detect variations within the system (e.g., fluctuations in concentration due to seasonal use, changes in water source, etc.).

(iv) The executive director may require a confirmation sample for positive or negative results. If a confirmation sample is required by the executive director, the result must be averaged with the first sampling result and the average used for the compliance determination as specified by subsection (f) of this section. The executive director has discretion to delete results of obvious sampling errors from this calculation.

(D) Waivers for SOC monitoring. The executive director may grant a waiver to reduce the SOC monitoring frequency from the monitoring frequency requirements of subparagraph (B) of this paragraph, based on previous use of the contaminant within the watershed or zone of influence of the water source. Examples of use of a contaminant include transport, storage, or disposal. If a determination by the executive director reveals no previous use of the contaminant within the watershed or zone of influence, a waiver may be granted. If the executive director cannot determine whether the contaminant has been used in the watershed or if the contaminant has been used previously, then the following factors shall be used to determine whether a waiver is granted:

(i) previous analytical results;

(ii) the proximity of the system to a potential point or non-point source of contamination. Point sources include spills and leaks of chemicals at or near a water treatment facility or at drinking water sources, manufacturing, distribution, or storage facilities, or from hazardous and municipal waste landfills and other waste handling or treatment facilities. Non-point sources include the use of pesticides to control insects, weeds, or pests on agricultural areas, forest lands, home and garden property, or other land application uses;

(iii) the environmental persistence and transport of the pesticide herbicide or contaminant;

(iv) how well the water source is protected against contamination due to such factors as depth of the well, type of soil, and the integrity of well construction. Surface water systems must consider watershed vulnerability and protection;

(v) elevated nitrate levels at the water supply source; and

(vi) use of polychlorinated byphenyls (s) in equipment used in the production, storage, or distribution of water (i.e., PCBs used in pumps, transformers, etc.).

(E) Compositing for SOC monitoring. The executive director may reduce the total number of samples required from a system for analysis by allowing the use of compositing. Composite samples from a maximum of five entry points to the distribution system are allowed. Compositing of samples must be done in the laboratory and analyzed within 14 days of sample collection.

(i) If, in the composite sample, a detection of one or more SOC contaminants listed in subsection (b)(1) of this section occurs, then a follow-up sample must be taken from each entry point to the distribution system included in the composite and analyzed within 14 days of collection.

(ii) If duplicates of the original SOC sample taken from each entry point to the distribution system used in the composite are available, the executive director

may use these duplicates instead of resampling. The duplicate must be analyzed within 14 days of collection and the results reported to the executive director.

(iii) Composting may only be permitted at entry points to the distribution system within a single system.

(F) Initial SOC monitoring. If monitoring data are generally consistent with the requirements of this subsection, then the executive director may allow systems to use that data to satisfy the monitoring requirement for the initial compliance period.

(2) VOC monitoring requirements. Monitoring of the VOC contaminants shall be conducted at the frequency and locations given in this paragraph.

(A) VOC monitoring locations. Monitoring of the VOC contaminants shall be conducted at the following locations.

(i) Systems that use only groundwater shall sample for VOCs at every entry point to the distribution system which is representative of each well after treatment. Subsequent samples must be taken at the same entry point to the distribution system unless a change in conditions makes another entry point to the distribution system more representative of each source or treatment plant. The executive director must approve any change in sampling location.

(ii) Surface water systems, systems using groundwater under the direct influence of surface water, and systems blending groundwater and surface water shall sample for VOCs at points in the distribution system that are representative of each source or at each entry point to the distribution system. Subsequent samples must be taken at the same entry points to the distribution system unless a change in conditions makes another entry point to the distribution system more representative of each source or treatment plant. The executive director must approve any change in sampling location.

(B) VOC monitoring frequency. Monitoring of the VOC contaminants shall be conducted at the following frequency.

(i) Community and nontransient noncommunity water systems shall take four consecutive quarterly samples for each VOC contaminant listed in subsection (b)(2) of this section during each compliance period, beginning with the initial compliance period.

(ii) If the initial monitoring for VOC contaminants has been completed by December 31, 1992, and the system did not detect any VOC contaminant listed in subsection (b)(2) of this section, the system shall take one sample annually beginning with the initial compliance period.

(iii) After a minimum of three years of annual sampling, the executive irector may allow groundwater systems with no previous detection of any VOC contaminant listed in subsection (b)(2) of this section to take one sample during each compliance period. (iv) Each community and nontransient groundwater system which does not detect a VOC contaminant listed in subsection (b)(2) of this section may be granted a waiver from the annual or triannual requirements of subsection (c)(2)(B)(ii) and (iii) of this section after completing the initial monitoring. For the purposes of this section, detection is defined as an analytical result of 0.0005 mg/L or greater. A waiver shall be effective for no more than six years (two compliance periods).

(v) Each public water system shall monitor at the time designated by the executive director within each compliance period.

(C) Increased VOC monitoring. The executive director may change the monitoring frequency for VOCs.

(i) Systems which violate the VOC MCLs of subsection (b)(2) of this section, as determined by subsection (f) of this section, must monitor quarterly. After a minimum of four consecutive quarterly samples that show the system is in compliance as specified in subsection (f) of this section and after the executive director determines that the system is reliably and consistently below the MCL, the executive director may allow the system to monitor annually during the quarter that previously yielded the highest analytical result.

(ii) The executive director may require a confirmation sample for positive or negative results. If a confirmation sample is required by the executive director, the result must be averaged with the first sampling result and the average is used for the compliance determination as specified by subsection (f) of this section. The executive director has discretion to delete results of obvious sampling errors from this calculation.

(iii) If a VOC contaminant listed in subsection (b)(2) of this section is detected at a level exceeding 0.0005 mg/L in any sample, then:

(I) the system must monitor quarterly at each entry point to the distribution system which resulted in a detection;

(II) the executive director may decrease the quarterly monitoring requirement specified in subsection (c)(2)(C)(iii)(I) of this section provided it has determined that the system is reliably and consistently below the maximum contaminant level. In no case shall the executive director make this determination unless a groundwater system takes a minimum of two quarterly samples and a surface water system takes a minimum of four quarterly samples;

(III) if the executive director determines that the system is reliably and consistently below the MCL, the executive director may allow the system to monitor annually. Systems which monitor annually must monitor during the quarter which previously yielded the highest analytical result;

(IV) systems which have three consecutive annual samples with no detection of a contaminant may be granted a waiver as specified in subparagraph (D) of this paragraph; and

(V) groundwater systems which have detected one or more of the following two-carbon organic compounds: trichloroethylene, tetrachloroethylene, 1,2-dichloroethane, 1,1,1-trichloroethane, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, or 1,1-dichloroethylene shall monitor quarterly for vinyl chloride. A vinyl chloride sample shall be taken at each entry point to the distribution system at which one or more of the two-carbon organic compounds was detected. If the result of the first analysis does not detect vinyl chloride, the executive director may reduce the quarterly monitoring frequency for vinyl chloride to one sample during each compliance period. Surface water systems are required to monitor for vinyl chloride as specified by the executive director.

(iv) The executive director may increase the required VOC monitoring frequency, where necessary, to detect variations within the system (e.g., fluctuations in concentration due to seasonal use, changes in water source, etc.).

(D) Waivers for VOC monitoring. The executive director may grant a waiver after evaluating the previous use (including transport, storage, or disposal) of the contaminant within the watershed or zone of influence of the water sources. If a determination by the executive director reveals no previous use of the contaminant within the watershed or zone of influence, a waiver may be granted. If previous use of the contaminant is unknown or it has been used previously, then the following factors shall be used to determine whether a waiver is granted:

(i) previous analytical results;

(ii) the proximity of the system to a potential point or non-point source of contamination. Point sources include spills and leaks of chemicals at or near a water treatment facility or at drinking water sources manufacturing, distribution, or storage facilities, or from hazardous and municipal waste landfills and other waste handling or treatment facilities;

(iii) the environmental persistence and transport of the contaminants;

(iv) the number of persons served by the public water system and the proximity of a smaller system to a larger system;

(v) how well the water source is protected against contamination (e.g., is it a surface or groundwater system). Groundwater systems must consider factors such as depth of the well, the type of soil, and well construction. Surface water systems must consider watershed protection;

(vi) as a condition of the waiver a groundwater system must take one sample at each entry point to the distribution system during the time the waiver is effective (i.e., one sample during two compliance periods or six years) and update its vulnerability assessment considering the factors listed in this paragraph. Based on this updated vulnerability assessment the executive director must reconfirm that the system is not vulnerable. If the executive director does not make this reconfirmation within three years of the initial determination, then the waiver is invalid and the system is required to sample annually; and

(vii) community and nontransient surface water systems which do not detect a VOC contaminant listed in subsection (b)(2) of this section may be considered by the executive director for a waiver from the annual sampling requirements of subparagraph (B)(ii) of this paragraph after completing the initial monitoring. Systems meeting this criteria must be determined by the executive director to be non-vulnerable based on a vulnerability assessment during each compliance period. Each system receiving a waiver shall sample at the frequency specified by the executive director (if any).

(E) Compositing for VOC monitoring. The executive director may reduce the total number of samples a system must analyze by allowing the use of compositing. Composite samples from a maximum of entry points to the distribution system are allowed. Compositing of samples must be done in the laboratory and analyzed within 14 days of sample collection.

(i) If the VOC concentration in the composite sample is 0.0005 mg/L or greater for any contaminant listed in subsection (b)(2) of this section, then a follow-up sample must be taken and analyzed within 14 days from each entry point to the distribution system included in the composite.

(ii) If duplicates of the original sample taken from each entry point to the distribution system used in the composite are available, the system may use these instead of resampling. The duplicate must be analyzed within 14 days of collection.

(iii) Compositing may only be permitted by the executive director at entry points to the distribution system within a single system.

(iv) Procedures for compositing VOC samples are as stated in 40 Code of Federal Regulations (CFR) §141.24 (f)(14)(iv).

(d) Analytical requirements for organic contaminants. Analytical procedures shall be performed in accordance with §290.119 of this title (relating to Analytical Procedures). Testing for organic contaminants shall be performed at a laboratory certified by the executive director.

(e) Reporting requirements for organic contaminants. Upon the request of the executive director, the owner or operator of a public water system must provide the executive director with a copy of the results of any test, measurement, or analysis required by this subsection. The copies must be submitted within ten days of the request or within ten days of their receipt by the public water system, whichever is later. The copies must be mailed to the Texas Commission on Environmental Quality, Water Supply Division, MC 155, P.O. Box 13087, Austin, Texas 78711-3087.

(f) Compliance determination for organic contaminants. Compliance with the MCLs of subsection (b)(1) and (2) of this section shall be determined based on the analytical results obtained at each entry point to the distribution system.

(1) For systems which are sampling more than once a year, compliance is determined by a running annual average of all samples taken at each entry point to the distribution system. If the annual average at any entry point to the distribution system is greater than the MCL, the system commits an MCL violation. If the initial sample or a subsequent sample would cause the annual average to be exceeded, then the system is out of compliance immediately. Any samples below the detection limit shall be considered to be zero for purposes of calculating the annual average.

(2) For systems which are sampling once a year or less, compliance is based on a single sample. If the level of a contaminant at any entry point to the distribution system is greater than the MCL, the system commits an MCL violation. If a confirmation sample is required the executive director, the determination of compliance will be based on the average of the two samples.

(3) The executive director has the authority to determine compliance or initiate enforcement action based upon analytical results and other information compiled by their sanctioned representatives and agencies.

(g) Public notification requirements for organic contaminants. A public water system that violates the requirements of this section must notify the executive director and the system's customers. If a public water system has a distribution system separate from other parts of the distribution system with no interconnections, the executive director may allow the system to give public notice to only that portion of the system which is out of compliance.

(1) A system that violates an MCL given in subsection (b) of this section, shall report to the executive director and notify the public as provided under §290.122(b) of this title.

(2) A public water system which fails to conduct the monitoring required by this section must notify its customers of the violation in accordance with the requirements of §290.122(c) of this title (relating to Public Notification).

(h) Best available technology for organic contaminants. Best available technology for treatment of violations of MCLs in subsection (b) of this section are listed in 40 CFR §141.61. Copies are available for review in the Water Supply Division, Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087

Figure: 30 TAC §290.107(b)(1)

Contaminant	MCL (mg/l)
Alachlor	0.002
Atrazine	0.003
Benzopyrene	0.0002
Carbofuran	0.04
Chlordane	0.002
Dalapon	0.2
Dibromochloropropane	0.0002
Di(2-ethylhexyl)adipate	0.4
Di(2-ethylhexyl)phthalate	0.006
Dinoseb	0.007
Diquat	0.02
Endothall	0.1
Endrin	0.002
Ethylene dibromide	0.00005
Glyphosate	0.7
Heptachlor	0.0004
Heptachlor epoxide	0.0002
Hexachlorobenzene	0.001
Hexachlorocyclopentadiene	0.05
Lindane	0.0002
Methoxychlor	0.04
Oxamyl (Vydate)	0.2
Pentachlorophenol	0.001
Picloram	0.5
Polychlorinated biphenyls (PCB)	0.0005
Simazine	0.004
Toxaphene	0.003
2,3,7,8-TCDD (Dioxin)	3×10^{-8}
2,4,5-TP	0.05
2,4-D	0.07

Figure: 30 TAC §290.107(b)(2)

Contaminant	MCL (mg/L)
1,1-Dichloroethylene	0.007
1,1,1-Trichloroethane	0.2
1,1,2-Trichloroethane	0.005
1,2-Dichloroethane	0.005
1,2-Dichloropropane	0.005
1,2,4-Trichlorobenzene	0.07
Benzene	0.005
Carbon tetrachloride	0.005
cis-1,2-Dichloroethylene	0.07
Dichloromethane	0.005
Ethylbenzene	0.7
Monochlorobenzene	0.1
o-Dichlorobenzene	0.6
para-Dichlorobenzene	0.075
Styrene	0.1
Tetrachloroethylene	0.005
Toluene	1
trans-1,2-Dichloroethylene	0.1
Trichloroethylene	0.005
Vinyl chloride	0.002
Xylenes (total)	10